

WO 03/072799

PCT/US03/05186

Fig. 1A

10/505377

ACCCTCCACTCTCGCGCCAGCCCGGCGGCGGCGGCTGTGGGCTGCAGCACGCGGTGCAC	60
GAGGCAGAGCCACAAGCCAAAGACGGAGTGGGCGGAGCATTCCGGCCACGCCTTCCGCGG	120
CCAAGTCATTATGGCAGCCACTGAGATCTCTGTCTTTCTGAGCAATTCACCAAGATCAA	180
AGAACTCGAGTTGATGCCGAAAAAGGCCTGAAGGAGGAGGAAAAAGACGGAGTGTGCAG	240
AGAGAAAGACCATCGGAGCCCTAGTGAGTTGGAGGCCGAGCGTACCTCTGGGGCCTTCCA	300
GGACAGCGTCTTGGAGGAAGAAGTGGAGCTGGTGTGGCCCCCTCGGAGGAGAGCGAGAA	360
GTACATCCTGACCCTGCAGACGGTGCACCTTCACTTCTGAAGCTGTGGAGTTGCAGGATAT	420
GAGCTTGCTGAGCATACAGCAGCAAGAAGGGGTGCAGGTGGTGGTGCACAGCCTGGCCC	480
TGGGTGTGTGTGGCTTGAGGAAGGGCCCCGGCAGAGCCTGCAGCAGTGTGTGGCCATTAG	540
TATCCAGCAAGAGCTGTACTCCCCGCAAGAGATGGAGGTGTTGCAGTTCACGCTCTAGA	600
GGAGAATGTGATGGTGGCCAGTGAAGACAGTAAGTTAGCGGTGAGCCTGGCTGAAACTGC	660
TGGACTGATCAAGCTCGAGGAAGAGCAGGAGAAGAACCAGTTATTGGCTGAAAGAACAAA	720
GGAGCAGCTCTTTTTTGTGGAAACAATGTCAGGAGATGAAAGAAGTGACGAAATTGTTCT	780
CACAGTTTCAAATTCAAATGTGGAAGAACAGAGGATCAACCTACAGCTGGTCAAGCAGA	840
TGCTGAAAAGGCCAAATCTACAAAAAATCAAAGAAAGACAAAGGGAGCAAAGGAACCTT	900
CCACTGTGATGTCTGCATGTTACCTCTTCTAGAATGTCAAGTTTTAATCGTCATATGAA	960
AACCTCACACCAGTGAGAAGCCTCACCTGTGTACCTCTGCCTGAAAACCTTCCGTACGGT	1020
CACTCTGCTGCGGAACCATGTTAACACCCACACAGGAACCAGGCCCTACAAGTGTAACGA	1080
CTGCAACATGGCATTGTGTACACAGTGGAGAACTCGTCCGACACAGGCGCTATAAACATAC	1140
TCATGAGAAACCTTTAAATGTTCCATGTGCAAGTATGCCAGTGTGGAGGCAAGTAAATT	1200
GAAGCGCCATGTCCGATCCCACACTGGGGAGCGCCCCCTTTCAGTGTGTCAGTGCAGCTA	1260
TGCCAGCAGAGATACCTACAAGCTGAAACGCCACATGAGAACGCACCTCAGGTGAGAAGCC	1320
TTACGAATGCCACATCTGCCACACCCGCTTACCCAGAGCGGGACCATGAAAATACATAT	1380
TCTGCAGAAACACGGCGAAAATGTCCCCAAATACCAGTGTCCCATTTGTGCCACCATCAT	1440
TGCACGGAAAAGCGACCTACGTGTGCATATGCCGCAACTTGCATGCTTACAGCGCTGCAGA	1500
GCTGAAATGCCGCTACTGTTCTGCTGTCTTCCATGAACGCTATGCCCTCATTACAGACCA	1560
GAAAACTCATAAGAATGAGAAGAGGTTCAAGTGCAAACACTGCAGTTATGCCTGCAAGCA	1620
GGAACGTCATATGACCGCTCACATTTCGTACCCACACTGGAGAGAAACCATTACCTGCCT	1680
TTCTTGCAATAAATGTTTCCGACAGAAGCAACTTCTAAACGCTCACTTCAGGAAATACCA	1740
CGATGCAAATTTTCATCCCGACTGTTTACAAATGCTCCAAGTGTGGCAAAGGCTTTCCCG	1800
CTGGATTAAACCTGACAGACATTTCGGAGAGTGTGGATCAGGGGAAGCAAAGTCGGCTGC	1860
TTCAGGAAAGGGAAGAAGAACAAGAAAGAGGAAGCAGACCATCCTGAAGGAAGCCACAAA	1920
GGGTGAGAAGGAAGCTGCGAAGGGATGGAAGGAAGCCGCGAACGGAGACGAAGCTGCTGC	1980
TGAGGAGGCTTCCACCACGAAGGGAGAACAGTTCCCAGGAGAGATGTTTCTGTGCGCTG	2040
CAGAGAAACCACAGCCAGAGTCAAAGAGGAAGTGGATGAAGGCGTGACCTGTGAAATGCT	2100
CCTCAACACGATGGATAAGTGAGAGGGATTCCGGTGTGCGTGTTCAGTGGCCCCCAATTCT	2160
AAAGCAAGTTAGAAGTTTTTAGCATTTAAGGTGTGAAATGCTCCTCAACACGATGGATAA	2220
GTGAGAGAGAGTCAGGTTGCATGTTCACTGCCCCTAATTCTTAAAGCAAGTTAGAAATT	2280
TTAGCATTTTCTTTGAAACAATTAAGTTTCATGACAAATGGATGACACAAGTTTGAGGTAGT	2340
GTCTAGAATTGTTCTCCTGTTTGTAGCTGGATATTTCAAAGAAACATTGCAGGTATTTTA	2400
TAAAAGTTTAAACCTTGAATGAGAGGGTAACACCTCAAACCTATGGATTCACTTCTTG	2460
ATATTGGCAAGGTGGCCCAATGAGTGAGTAGTGATTTTTGGATATTTCAAATAGTCT	2520
AGACCAGCTAGTGCTTCCACAGTCAAAGCTGGACATTTTTATGTTGCATTATATACACCC	2580
ATGATATTTCTAATAATATATGGTTTTAAACATTAAAGACAAATGTTTTTATACAAATGA	2640
ATTTTCTACAAAATTTAAAGCTACCATAATGCTTTTAATTAGTTCTAAATTCAACCAAAA	2700
AATGTTTTACTCTTATAAAAAGGAAAACCTGAGTAGGAAATGAAATACTAGATTAGACTAG	2760
AAAATAAGGAATAAATCGATTTTACTTTGGTATAGGAGCAAGGTTACCTTTAGATTTTT	2820
GTATTCTCTTTTAAATTATGCTCCTTGGCAGGTATGAAATTGCCCTGGTTACATTCCATTA	2880
TTGCTTATTAGTATTTCACTCCATAACCCCTTTTTTCTGCTAAAACCTACTTTTTTATATT	2940
TGTAAAATAATTGGCAGAGTGAGAAGAAACATAAAATCAGATAAGGCAAATGTGTACCTG	3000
TAAGGAATTTGTACTTTTTTACATAATGCCAGTGATTAGTGAGTATTTCCCTTTTGCCAGT	3060
TGACAAGATTTTTCCACCCTCGAGCAGCGTGAGAGATGCCTCTTTAACACTTGAAATTCA	3120
TTTCTATCTGGATACAGAGGCAGATTTTTCTTCATTGCTTAGTTGAGCAGTTTGTTTTGC	3180
TGCCAACCTGTCTCCACCCCTGTATTTCAAGATCATTGATAAGCCCTAAATTCAAATTCT	3260
TAAGATATGGACCTTTTATTGAAAATATCACAAGTTCAGAATCCCTATACAATGTGAATA	3300
TGTGGAAATAATTTCCAGCAGGAAGAGCATTATATCTCTTTGTACCAGCAAATTAATT	3360
TAACTCAACTACATGAGATTTAAATTCTGTGGCGTGTAGTATGCCATCATTGTGACTGA	3420
ATTTGTGCAATGGTTTTCTTAATTTTTTTACTGTATTTTAAAGATGTTTTACATAAATCAA	3480
TAAAATGAAATGACTTAAATTGCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	3540
A (SEQ ID NO:1)	3541

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Fig. 1B

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CCATTTTGTGCACCTTGATCAAAGCCCATGTCTACTAGGCCCCAGCACCTCTGCACCCCA	60
TAAAGATTGCACGCTCTTTTTCCATCAGGGGTCGTACCATGGCTGCCGCTGAGGTCCCT	120
GTCCCTTCTGGGTACTTCACCCAGATCAAAGAGCAGAAGTTGAAGCCTGGAGACCTAGAG	180
GAGGAGAAAGAGGAGGACGGGGTACAAAGAGTGAAGCCAGGAGGGAGTTGTCAAGGAG	240
GTGGAGGCCGAGAACAGTTGCCTGCTTCTGGAGGCCAGGGCCCCGGTGGAGAGCGACAGG	300
CGGATCCTGACCCCTGCAAACGGTGCACCTGGAGTCCAGGATGTGCACCTACAGGGGCTG	360
GGATGGCTGAGCGTGCCACACTCTGAGGAGCTTTAGGGACGGTACCAGAGGCGGAAGGC	420
ATACTGCAGTTGCCATCCGTGCTGTGGCTCGACCCAGAGCCCCAGCTCAGCCTTCAGCAT	480
TGCGTGACGGTCAGCATCCCGGAAGAGCTGTACCCACCAGAGGAGCTGCAGCGGATACAT	540
TTTCACCTGCTGAGAGAGAATGTGCTAATGGCCGAGGAGAAGCCAGAGTTAACACCAGAC	600
TTGGACGAAAAGCACAGCCCTGAAAAAGCCCCGAAGAAGATGAAAAGGACCAGCTCCCGCCC	660
CAGGGAGAGACAGACAAGAGAGAAGAGAGGTTGCTCCTTCTGGAAATGAAACCAAAAGAG	720
GGAAAAGACGACGAAATTGTCTTGACCATTTCCCATCTAAGCCTCGAAGAACAGCAAGAT	780
CCACCAGCGGCCAATCAGACAAGTGTGCCGGGAGCCAAAGCCGCAAAACCAAAACGGCGG	840
AGGCAGACCAAGGGAAAGCCTCAGAGCTTTAGTGTGACACCTGCCCGTTCACTTCTCTCC	900
AAGCTCTCAACTTTCAATCGTCACATCAAATTCACAGCAATGAGAGGCCACACCTGTGT	960
CACCTGTGCCTGAAGGCCCTTCCGGACTGTCACTCTTCTTAGGAACCATGTGAACACCCAC	1020
ACAGGAACCAGGCCCCACAAGTGCAGGGACTGCGACATGGCGTTTGTCAACAGCGGAGAA	1080
CTCGTCCGGCACAGGCGTTACAAACACACTTATGAGAAGCCCTTCAAGTGCTCCCTGTGC	1140
AAGTACGCCAGCGTCGAGGCAAGCAAGATGAAGCGTCACATCCGCTCACACACGGGTGAG	1200
CGTCCCTTCCAGTGTGTGCCAGTGTGCTTATGCCAGCAGGGACTCCTACAAGCTGAAGCGC	1260
CACATGAGGACACACTCAGGTGAGAAGCCGTATGAATGTCCCACCTGTACGTCCGGTTC	1320
ACCCAGAGCGGGACCATGAAAATCCATATAGCACAGAAGCACGGAGAGAATGTGCCCCAA	1380
TACGAGTGTCCCCACTGTGCCACCATCATCGCGAGGAAGAGCGACCTGCGTGTCCATCTG	1440
CGTAACCTGCACAGCCAGAGCCCGGAGGAGATGAAGTGCCGATACTGTCCCGCTGGCTTC	1500
CATGAGCGCTATGCCCTCATTACAGCACCAGAGGACCCACAAGAACGAGAAGAAGTTCAAG	1560
TGCAAGCAGTGCGATTACGCGTGCAAGCAGGAGCGATGCTTGAAGGCGCACATGCGCATG	1620
CACACAGGAGAGAAGCCCTTCTCCTGCCTGGCCTGCAACAAGCACTTCCGACAGAAGCAG	1680
CTACTGACCGTGCACCTGAGGAAGTACCATGACCCGAACCTTCGTCCCCAATCTGCACCTG	1740
TGCCTCAAGTGTGATAAACGTTTCTCCCGCTGGAGTAACCTGCAGAGACACAGAAAGAAG	1800
TGTGACCCGGAGCATGAGACGTTAGCCCCCAACAAGGACAGGAGACCAGTGACAAGGACA	1860
CAGGCCTCGGAGGGGAGAAGCAGGACACAAGGAAGGGGAGCCTCAGTGCCCTGGGGAGCAG	1920
GCTCTGGGCCACCAAGGAGAAGCAGCGGGGAGCCAGAGCCCAGACCACGGCCTTACCTGC	1980
GAGATGATCTTTAATCATGATGGATAAGTGATGGATAAGTGAGCAGTCGTGCCTCTCCGTG	2040
CAGTGGCCTCTGGGGGAAGAAACAGTTAGAAATAAGTTCCAGACACAGCACAGTGTTTC	2100
TCAGAGTTTGAGATAGTGTGTAGAAATGTTTGAGAGAAGGGGAAAAAAACCTGCAGCTA	2160
TTTCCAAAGACTTGAGTCAGAGCTCGAAGTGAAGGTGCACATATCTGGGCCCTAGCAGGT	2220
GCCAGAAATGAGTCAGGGACAGATTCTAGGTGATACTTATGTCCACGGGGGCTCAGACCA	2280
GTTAACGCCTTGGTGGTCAGAGCAGAAAATTTTTTGAGTTGTTGTACCCACCCTCAA	2337

(SEQ ID NO:3)

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Fig. 2A

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MAATEISVLSEQFTKIKELELMPEKGLKEEEKDGVCREKDHRSPELEAERTSGAFQDSV	60
LEEEVELVLAPSESESEKYILTTLQTVHFTSEAVELQDMSLLSIQQQEGVQVVVQPGPGLL	120
WLEEGPRQSLQQCVAISIQQELYSQEMEVLOFHALEENVMVASEDSKLAVSLAETAGLI	180
KLEEEQEKQQLLAERTKEQLFFVETMSGDERSDEIVLTVSNSNVEEQEDQPTAGQADAEK	240
AKSTKNQRKTGAKGTFHCDVCMFTSSRMSSFNRHMKHTHTSEKPHLCHLCLKTFRTVTLL	300
RNHVNTHTGTRPYKCNDNCNMAFVTSGELVRHRRYKHTHEKPFKCSMCKYASVEASKLKRH	360
VRSHTGERPFQCCQCSYASRDYKLRHMRTHSGEKPYECHICHTRFTQSGTMKIHILQK	420
HGENVPKYQCPHCATIIARKSDLRVHMRNLHAYSAAELKCRYCSAVFHERYALIQHQKTH	480
KNEKRFKCKHCSYACKQERHMTAHIRTHTGEKPFTCLSCNKCFRQKQLLNAHFRKYHDAN	540
FIPTVYKCSKCGKGFSRWINLHRHSEKCGSGEAKSAASGKGRRTKRKQTILKEATKGQK	600
EAAKGWKEAANGDEAAAEASTTKGEQFPGEMFPVACRETTARVKEEVDEGVTCEMLLNT	660
MDK (SEQ ID NO:2)	663

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Fig. 2B

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MAAAEVPVPSPGYFTQIKEQKLKPGDLEEEKEEDGVQRVEAQEGVVKEVEAENSCLLLEAR	60
APVESDRRILTLQTVHLESQDVHLQGLGWLSVPHSEELSGTVPEAEGILQLPSVLWLDPE	120
PQLSLQHCVTVSIPPELYPPEELQRIHFHLLRENVLMAEENPELTPDLDESTALKKPEED	180
EKDQLPPQGETDKREERLLLLLEMKPKEGKDDEIVLTISHLSLEEQQDPPAANQTSVPGAK	240
AAKPKRRRQTKGKPQSFQCDTCPFTSSKLSTFNRHIKHSNERPHLCHLCLKAFRTVTLL	300
RNHVNTHTGTRPHKCRDCDMAFVTSGELVRHRRYKHTYEKPFKCSLCKYASVEASKMKRH	360
IRSHTGERPFQCCQAYASRDSYKLKRHMRTSHGKPYECPCHVRFTQSGTMKIHIAQK	420
HGENVPKYECPHCATIIARKSDLRVHLRNLHSQSPEEMKCRYCPAGFHERYALIQHORTH	480
KNEKKFKCKQCDYACKQERCLKAHMRMHTGEKPFSCACNKHFRQKQLLTVHLRKYHDPN	540
FVPNLHLCLKCDKRFSRWSNLQRHRKKCDPEHETLAPNKDRRPVTRTQASEGEAGHKEGE	600
PQCPGEQALGHQGEAAGSQSPDHGLTCEMIFNMMDK (SEQ ID NO:4)	636

CAGGGTAAAGCAGGGGGCCCTGCCAGGCCTCCGAGGGAGTGTGCTTGGTCTGGCCGAGGGC 60
 TGCTTGGCCAAAGTCTGGGTGGGCTCGAGGCCACTAGGCCCAAAGCCTGCCTGGCTCTGAG 120
 GGTGCTAGGTCTAGAACCGTGCACGAGGGGAATGCCTGCTCGGGCCCCGAACCTCGCTGGG 180
 CGCCGGGTGTGCACTGGCCCCGGGGCCTGCTTGGACCTGAAACTTGTAGGCCAGGATAT 240
 GCACTGGCCGAGAGCCTAACCTTGTAGGCCCAAACCTTACTAGGCCAGGATGTTCACTGACTGA 300
 ACCGGCTCAGGCGCTAACCTTGTAGGCCAGGATATGCACTGGGCCAGAGTGTGCTCAGG 360
 CGGAACCTTGCCAGGCGCAGGATGTGTGCTGGCCCTAAGCCTGCTGAGGCCCAAACCTGT 420
 TCGTTCTAGGGTTTTGTACAAAATCCTGCTTTAGCCTAAATCCTGCTTAGCCTTGACCCC 480
 CTCCTAGACCCAAGCCAGATCAGCATTGTTCTGACCCTACTAAGTCCAAAACCTTTTGAG 540
 GCCAGACCTTGTTTTCAACTCCAAAGCCTGCTAGGTTCAGCACCCCCCGCATCCCTCCTC 600
 ATACCACCCCTTCTCCCCCTATGGAACCGCTTGCTTATTTTTCAAACAGGCCAAGTC 660
 ATTatggcagccactgagatctctgtcctttctgagcaattcaccaagatcaaagaactc 720
 1 M A A T E I S V L S E Q F T K I K E L
 gagttgatccggaagcctgaaggaggaggaagcagcggagtggtgcagagagagaaa 780
 20 E L M P E K G L K E E E K D G V C R E K
 gaccatcggagccctagtgtgaggccgagcgtacctctggggccttcaggacagc 840
 40 D H R S P S E L E A E R T S G A F Q D S
 gtcctggaggaagaagtggagctggtgctggccccctcggaggagagcgagaagtacatc 900
 60 V L E E E V E L V L A P S E E S E K Y I
 ctgaccctgcagacggtgcacttcacttctgaagctgtggtgagttgcaggatatgagcttg 960
 80 L T L Q T V H F T S E A V E L Q D M S L
 ctgagcatcacagcagcaagaaggggtgcaggtggtggtgcaacagcctggccctgggttg 1020
 100 L S I Q Q Q E G V Q V V Q Q P G P G L
 ctgtggccttgaggaagggccccggcagagcctgcagcagtggtgtggccattagtatccag 1080
 120 L W L E E G P R Q S L Q Q C V A I S I Q
 caagagctgtactccccgcaagagatggaggtgttgagttccacgctctagaggagaat 1140
 140 Q E L Y S P Q E M E V L Q F H A L E E N
 gtgatggtggccagtgaaagacagtaagtttagcggtagcctggctgaaactgctggactg 1200
 160 V M V A S E D S K L A V S L A E T A G L
 atcaagctcgaggaagagcaggagaagaaccagttattggctgaaagaacaaaggagcag 1260
 180 I K L E E E Q E K N Q L A E R T K E Q
 ctcttttttggaaacaatgtcaggagatgaaagaagtgcgaaattgttctcacagtt 1320
 200 L F F V E T M S G D E R S D E I V L T V
 tcaaatcaaatgtggaagaacaagaggatcaacctacagctggtcaagcagatgctgaa 1380
 220 S N S N V E E Q E D Q P T A G Q A D A E
 aaggccaaatctacaaaaaatcaaagaaagacaaagggagcaaaaggaaccttccactgt 1440
 240 K A K S T K N Q R K T K G A K G T F H C
 =
 gatgtctgcatgttcacctcttctagaatgtcaagtttttaatcgctcatatgaaaactcac 1500
 260 D V C M F T S S R M S S F N R H M K T H
 ===== ZF1 =====
 accagtgagaagcctcacctgtgtcacctctgcctgaaaaccttccgtacgggtcactctg 1560
 280 T S E K P H L C H L C L K T F R T V T L
 ===== ZF2 =====
 ctgcggaaccatgttaacacccacacaggaaccaggccctacaagtgtaacgactgcaac 1620
 300 L R N H V N T H T G T R P Y K C N D C N
 =====
 atggcatttgtcaccagtggagaactcgtccgacacaggcgctataaacataactcatgag 1680
 320 M A F V T S G E L V R H R R Y K H T H E
 ===== ZF3 =====
 aaacccttttaaatgttccatgtgcaagtatgccagtgtggaggcaagtaaattgaagcgc 1740
 340 K P F K C S M C K Y A S V E A S K L K R
 ===== ZF4 =====
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 360 H V R S H T G E R P F Q C C Q C S Y A S
 =====
 agagatacctacaagctgaaacgccacatgagaacgcactcaggtgagaagccttacgaa 1860
 380 R D T Y K L K R H M R T H S G E K P Y E
 ===== ZF5 =====
 tgccacatctgccacacccgcttcacccagagcgggaccatgaaaatacatattctgcag 1920
 400 C H I C H T R F T Q S G T M K I H I L Q

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===== ZF6 =====
420 aaacacggcgaaaatgtccccaataaccagtgccccattgtgccaccatcattgcacgg 1980
    K H G E N V P K Y Q C P H C A T I I A R
=====
440 aaaagcgacctacgtgtgcatatgcgcaacttgcatgcttacagcgctgcagagctgaaa 2040
    K S D L R V H M R N L H A Y S A A E L K
===== ZF7 =====
460 tgccgctactgttctgtgtcttccatgaacgctatgccctcattcagcaccagaaaact 2100
    C R Y C S A V F H E R Y A L I Q H Q K T
===== ZF8 =====
480 cataagaatgagaagaggttcaagtgcacaactgcagttatgcctgcaagcaggaacgt 2160
    H K N E K R F K C K H C S Y A C K Q E R
===== ZF9 =====
500 catatgaccgctcacattcgtacccacactggagagaaaccattcacctgcctttcttgc 2220
    H M T A H I R T H T G E K P F T C L S C
=====
520 aataaatgtttccgacagaagcaacttctaaacgctcacttcaggaaataaccacgatgca 2280
    N K C F R Q K Q L L N A H F R K Y H D A
===== ZF10 =====
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    N F I P T V Y K C S K C G K G F S R W I
===== ZF11 =====
560 aacctgcacagacattcggagaagtgtggatcaggggaagcaaagtcggctgcttcagga 2400
    N L H R H S E K C G S G E A K S A A S G
=====
580 aaggggaagaagaacaagaagaggaagcagaccatcctgaaggaagccacaaagggtcag 2460
    K G R R T R K R K Q T I L K E A T K G Q
600 aaggaagctgcaagggatggaaggaagccgcgaacggagacgaagctgctgctgaggag 2520
    K E A A K G W K E A N G D E A A A E E
620 gcttccaccagaagggagaacagttccaggagagatgtttcctgtcgcctgcagagaa 2580
    A S T T K G E Q F P G E M F P V A C R E
640 accacagccagagtcaaagaggaagtggatgaaggcgtgacctgtgaaatgctcctcaac 2640
    T T A R V K E E V D E G V T C E M L L N
660 acgatggataagTGAGAGGGATTCCGGTTGCGTGTTCACCTGCCCCCAATTCCTAAAGCAA 2700
    T M D K
GTTAGAAGTTTTTAGCATTTAAGGTGTGAAATGCTCCTCAACACGATGGATAAGTGAGAG 2760
AGAGTCAGGTGTCATGTTCACTGCCCCCTAATTCCTAAAGCAAGTTAGAAATTTTTAGCAT 2820
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ACTCATGAGATTTAAATTTCTGTGGGCTGTAGTATGCCATCATTTGTGACTGAATTTGTG 3960
CAATGGTTTCTTAATTTTTTTTACTGTTATTTAAAGATGTTTTTACATAATTCAATAAATG 4020
AAATGACTTAAATTTGCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4080

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Fig. 3B

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MAATEIS-VLSEQFTKIKELELMPEKGLKEEEKDGVCREKDHRSPPSELEAERTSG	54
MEGDAVEAIVEESETFIKGERKTYQRRREGGQEDACHLPQ-----NQTDG	47
-----AFQDSVLEE-----EV-ELVLAPSEESE---KYILTLQTVHFT	127
GEVVQDVNSSVQVMMEQLDPTLLQMKTEVMEGTVAPEAAVDDTQIITLQVVMME	104
SEAV---ELQDMSLLSIQQQEGVQVVVQQPGPGLLWLEEGPRQSLQQCVAISIQQELYSPQ	145
EQPINIGELQ-----LVQVPVPVTVV-VATTSVEE-----LQAYENEVSKEGLAES	150
EMEVLQFHAALEE--NVMVASEDSKLAVSLAETAGLIKLEEEQEKN----QLLAERTKEQLFFVE	163
--EPMICHTLPLPEGFQVVKVGANGEVETLEQGELEPPQEDPSWQKDPDYQPPAKKTKKTKKSKL	212
TMSGDERSDEIVLTVSNSNVEEQEDQPTAGQADAeka-----KSTKNQRKTKGAKGT	256
RYTEEGKD----VDVSVYDFEEEQEGLLSEVNAEKVVGNMKPPKPTKIKKKGVKKT	265
FHGDVCMETSSRMSSEFARHMKHETSEKPHLCHEGLKGERHWTLEPRNHVNHETGTRP	312
FOCELCSTYIGPERSNEDRHKSTDERPHKCHCEGPAERTSVNIGERHNDHETGTRP	321
YKENDENMAFVTSGLVHHRMKHETHEKPFKESMCKQASVFAASKLGHVHSTGERP	369
HKCPDCDMAFVTSGLVHHRMKHETHEKPFKESMCKQASVFAASKLGHVHSTGERP	378
FOCCQCSYASRDYKCHGRHMTTSGEKPYECHCHHRETOSCTYKHHHFOKGENVPK	427
FOCSLCSYASRDYKCHGRHMTTSGEKPYECHCHHRETOSCTYKHHHFOKGENVPK	436
YOCPHGAMETARKSDIRVIMRNHAYSAAELKCRMCSAVHETRYAMHIOHOKTHKNEKR	485
FHCPCDITVARKSDEGVHHRKHSYIEQGKKGRYGDVAFHETRYAMHIOHOKSHKNEKR	494
FKCKHCSYACKOERHMTYHETRTTGEKPFTGESCNKCFROKOBENAHETRYGDANFIPTV	545
FKCQCCDYACROERHMTYHETRTTGEKPFTGESCNKCFROKOBENAHETRYGDANFIPTV	554
YKCSKCKGKESRWNTYHETRTTGEKPFTGESCNKCFROKOBENAHETRYGDANFIPTV	601
FVCSKCKGKESRWNTYHETRTTGEKPFTGESCNKCFROKOBENAHETRYGDANFIPTV	614
AAKGWKEAANGDEAAAAEASTTKGEQFPGEMFPVACRETTAR-----	643
AEFDL--DDNEDEEPEAVEIEPEPEPQVTPAPPPAKKRRGRPPGRTNQPKQNQP	667
-----VKEEVDEGVTCEMLLNTMDK	663
TAIIQVEDQNTGAIENIIVEVKKEPDAEPAEGEEEAQPAATDAPNGDLTPMILSMDR	727

Fig. 3C

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MAAAEVPYPSGYEIOIKKQKIKPGDLEEEKKEEDGVORVIAQEGVVKEVEAENSCLLEEAR	60
MAAHEISVLSQETKKELELMPEKGLKEEKKGVCR-EKDHRSPSELEAERTSGAFODS	60
-----AEV-ESDRRIITLQTVHLESQDVHIOGLGWSVPHSEETSGTVPEAEGIL	120
VLEEEVELVLAESESEKVIITLQTVHETSSEAVELOMSHLSIQQQEGVQ-VVVQQPC--	109
QLPSVWVLPPEQLSTOHEVTVSTPEELYPPEETQRTHEHLRENVMAEENPETTPDD	180
--EGLIWLIEGEROSECOQVATSTQOELYSQEMEVIOEHATEENVVASEDSKLAVSEA	167
ESTAT--KKPEDEKDOEPPOGETDKREERIEETEMKPKKEGKDDERVTTISHLSIEEQODP	239
ETAGIILLESQERNQ-----LAERTKEQDERVETMSGDESDETVLTVSNSNVEEQEDQ	221
ZF1	
PANQISVPGAKYAKPKRRROTKGKPOSEQCTCPETSSGQSTENRHKIHSNERPHI	297
ETAGQADAERKAKSTKNORK--TKGAKGTEHCEVCMETSSRMSSENRHKTHISEKPHI	277
ZF2	
ZF3	
CHICAGAPVAVILERNHVNTHITGRPHKCRBCDMATVTSGREVHRHRYKHITRKPKK	354
CHICAGAPVAVILERNHVNTHITGRPHKCRBCDMATVTSGREVHRHRYKHITRKPKK	334
ZF4	
ZF5	
CSICGASVDEASKMRHTRSHITGERPECCGCAVASRDSVRLGRHMRTHSGEKPMY	410
CSICGASVDEASKMRHTRSHITGERPECCGCAVASRDSVRLGRHMRTHSGEKPMY	390
ZF6	
ZF7	
CPTCAVRETOSGTMKCHILAKHGENVPKGMCPHCATHTTARKSDRVMHNRNTHSOSPEEMK	470
CHICHTRETOSGTMKCHILAKHGENVPKGMCPHCATHTTARKSDRVMHNRNTHSOSPEEMK	450
ZF8	
ZF9	
CRYCPAGTHERYATICHORHINKNEKKEKCKQCDVAGKGERCKKAMHMRMHTGEKPEES	526
CRYCSAVTHERYATICHORHINKNEKKEKCKHCSVACKOERHMTAHERTHITGEKPEES	506
ZF10	
ZF11	
CLACNKHROKQILTIVHLRGVHDPNEVENIHLCLKCDKRESRWSNTQRHRKCDP-	581
CLSCNKCEROKQILTIVHLRGVHDPNEVENIHLCLKCDKRESRWSNTQRHRKCDP-	562
EHETLAPNKDPRPVTRTOASEGEAGHKEGEPOCP-----	615
EAKGAASGGRTRKIKOTILKEATKGQKEAAKGWKEAANGDEAAAEASTTK	615
GEQALGHQGEAAGSOSP-----DHGLTCGEMTFNMDK	647
GEQFPCEMFPVCRETTARVKEEVDEGVTCGEMTFNMDK	654

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468 H E R Y A L I Q H Q R T H K N E K K F K
=====ZF8=====
tgcaagcagtgcgattacgcgtgcaagcaggagcgatgcttgaaggcgacatgacatg 1620
488 C K Q C D Y A C K Q E R C L K A H M R M
=====ZF9=====
cacacaggagagaagcccttctcctgcctggcctgcaacaagcacttccgacagaagcag 1680
508 H T G E K P F S C L A C N K H F R Q K Q
=====ZF10=====
ctactgaccgtgcacctgaggaagtaccatgacccgaacttcgtccccaatctgcacctg 1740
528 L L T V H L R K Y H D P N F V P N L H L
=====ZF11=====
tgcctcaagtgtgataaacgtttctcccgtggagtaacctgcagagacacagaaagaag 1800
548 C L K C D K R F S R W S N L Q R H R K K
=====ZF11=====
tgtgacccggagcatgagacgttagcccccaacaaggacaggagaccagtgacaaggaca 1860
568 C D P E H E T L A P N K D R R P V T R T
=====ZF12=====
caggcctcggaggggagaagcaggacacaaggaaggggagcctcagtgccctggggagcag 1920
588 Q A S E G E A G H K E G E P Q C P G E Q
gctctggggccaccaaggagaagcagcggggagccagagcccagaccacggccttacctgc 1980
608 A L G H Q G E A A G S Q S P D H G L T C
gagatgatctttaacatgatggataagTGATGGATAAGTGAGCAGTCGTGCCTCTCCGTG 2040
628 E M I F N M M D K
CAGTGGCCTCTGGGGGAAGAAACCAGTTAGAAATAAGTTCCCAGACACAGCACAGTGTTC 2100
TCAGAGTTTGAGATAGTGTGTAGAAATGTTTGAGAGAAGGGGAAAAAACCCCTGCAGCTA 2160
TTTCAAAGACTTGAGTCAGAGCTCGAAGTGAAGGTGCACATATCTGGGCCCTAGCAGGT 2220
GCCCAGAATGAGTCAGGGACAGATTCTAGGTGATACTTATGTCCACGGGGGCTCAGACCA 2280
GTTAACGCCTTGGTGGTCAGAGCAGAAAATTTTTTGAGTTGTTGTACCCACCCTCAA 2340

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Fig. 4A

ForN1	GAGCCTGTGGAGCGATTAAACC	(SEQ ID NO:6)
RevN1	CCGCCGCCGCTCCAC	(SEQ ID NO:7)
ForN2	CTTCTTTGGCGGCAGCGGCG	(SEQ ID NO:8)
RevN2	CGCGCCACACCCCCCGC	(SEQ ID NO:9)
ForN3	CCCCAGAACCAGAC	(SEQ ID NO:10)
RevN3	ACTTCAGTCTTCATCTG	(SEQ ID NO:11)
ForZF1	TGTGAGCTTTGCAGTTACAC	(SEQ ID NO:12)
RevZF1	ACTGTTCTGAATGCCCTG	(SEQ ID NO:13)
ForZF2	CGGCGTTCAAATTTGG	(SEQ ID NO:14)
RevZF2	CGAGTACCTGTGTGTGTGTT	(SEQ ID NO:15)
ForZF3	GTGCCCAGACTGCGA	(SEQ ID NO:16)
RevZF3	AATCGCACATGGAACAC	(SEQ ID NO:17)
ForZF4	TTCAAGTGTTCCATGTG	(SEQ ID NO:18)
RevZF4	CTGCTGGCATAACTGCAC	(SEQ ID NO:19)
ForZF5	CACATACAAGCTGAAAAGG	(SEQ ID NO:20)
RevZF5	GCATCTTCATGGTACCAC	(SEQ ID NO:21)
ForZF6	GTCATAGCCCGAAAAAGTG	(SEQ ID NO:22)
RevZF6	CGCTCATGAAACACAGC	(SEQ ID NO:23)
ForZF7	GTGTGACCAGTGTGATTA	(SEQ ID NO:24)
RevZF7	TTCTGGCGGAAGGTCTT	(SEQ ID NO:25)
ForZF8	CAAGCGCTATCACGACC	(SEQ ID NO:26)
RevZF8	TCTGCATGTCTTGCCAT	(SEQ ID NO:27)
ForC1	TCCTCTGACAGTGAAAATGC	(SEQ ID NO:28)
RevC1	CACAGGCTGAGGCTCTGG	(SEQ ID NO:29)
ForC2	CAGAATACAGGTGCAATTG	(SEQ ID NO:30)
RevC2	CACCGGTCCATCATGCTG	(SEQ ID NO:31)
NEWTCFOR	GCCAGTGTGGAGGCAAGTAAATTGAAG	(SEQ ID NO:32)
NEWTCREV	CACTGGCAACACTGAAAGGGGCGCTCCCC	(SEQ ID NO:33)

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Fig. 4B

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MB1FOR	TCGTCATATGAAAACACACC	(SEQ ID NO:34)
MB1REV	GACGAGTTCTCCACTGGTG	(SEQ ID NO:35)
MB2FOR	AACATACTCATGAGAAACCC	(SEQ ID NO:36)
MB2REV	GAGTGC GTTCTCATGTGG	(SEQ ID NO:37)
MB3FOR	GAGCGCCCCCTTTCAGTGT	(SEQ ID NO:38)
MB3REV	GCACAATGGGGACAC	(SEQ ID NO:39)
MB4FOR	ACCCAGAGCGGGACCATGAAA	(SEQ ID NO:40)
MB4REV	GACAGCAGAACAGTAGCGG	(SEQ ID NO:41)
MB5FOR	CATAAGAATGAGAAGAGG	(SEQ ID NO:42)
MB5REV	AAGTTGCTTCTGTGCGAAA	(SEQ ID NO:43)
MBNEWFOR	TTGTGCAGTTATGCCAGCAGG	(SEQ ID NO:44)
MBNEWREV	GTGCTTCTGTAAAATGTGCATC	(SEQ ID NO:45)